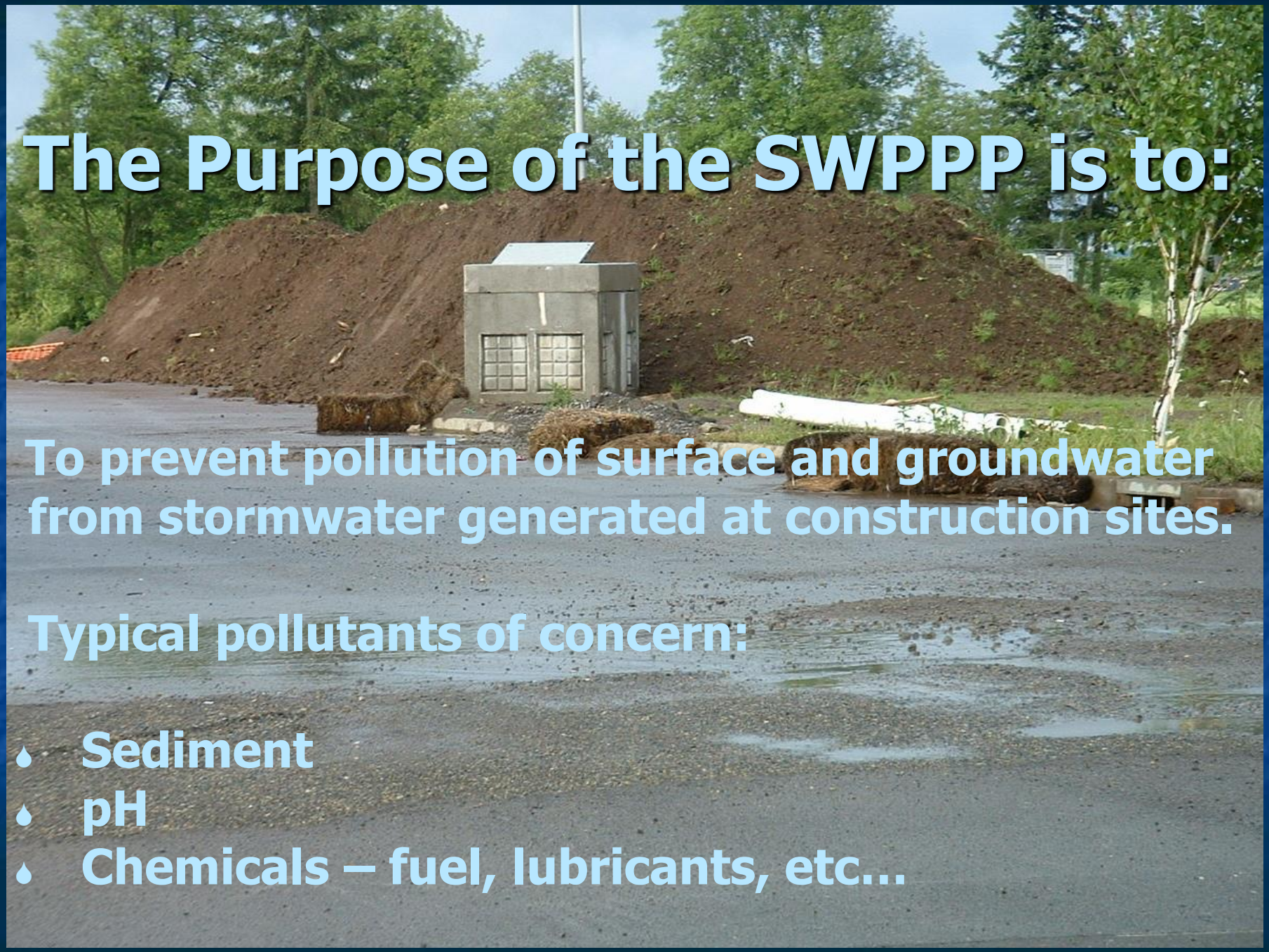
SWPPP: Stormwater Pollution Prevention Plan

Creating/Implementing a Plan for Compliance



The Purpose of the SWPPP is to:

To prevent pollution of surface and groundwater from stormwater generated at construction sites.

Typical pollutants of concern:

- Sediment
- pH
- Chemicals – fuel, lubricants, etc…

Required Parts of a SWPPP

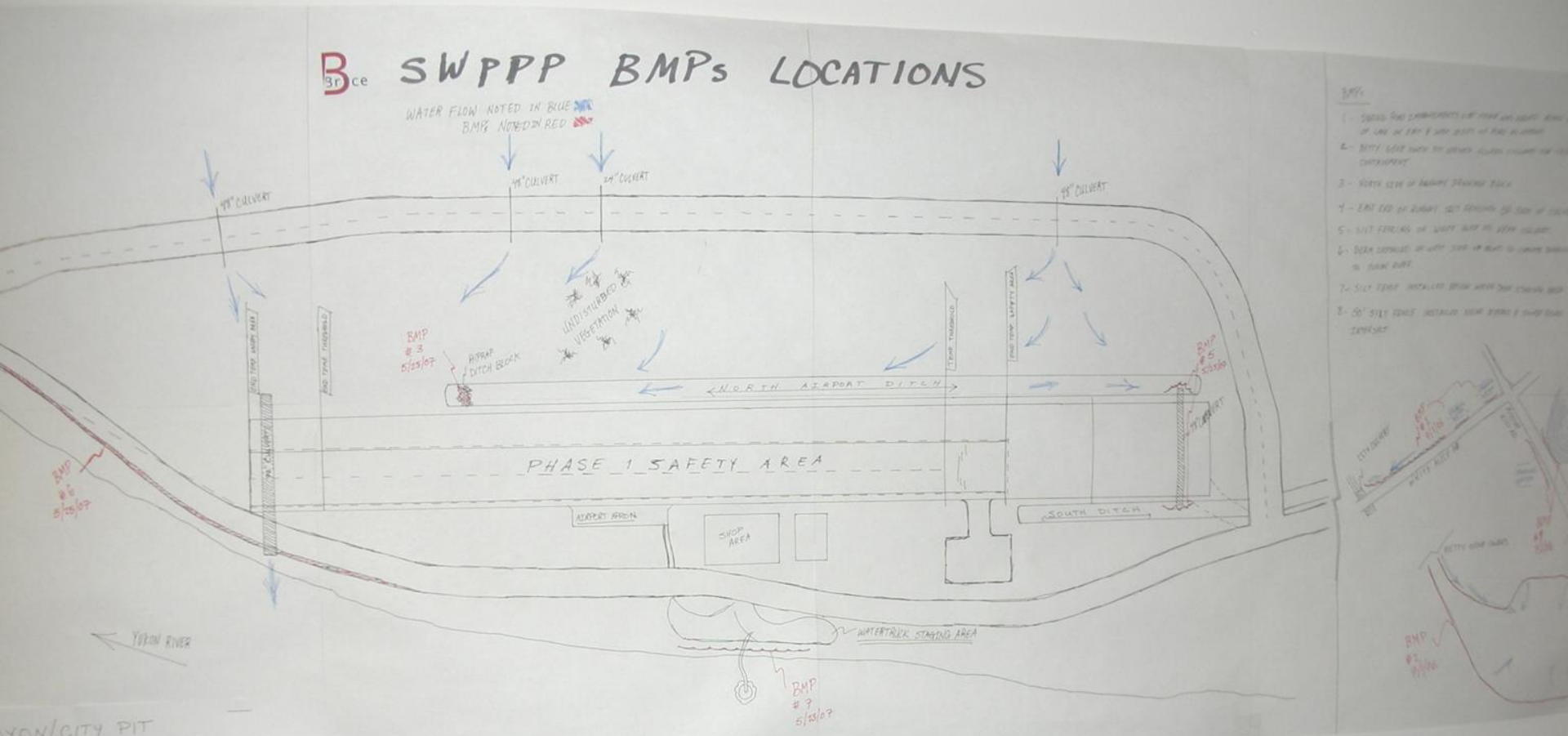
- **Drawings**
  Shows potential pollutant generating areas and Best Management Practices (BMPs) to be implemented to prevent or minimize pollution.
- **Narrative**
  Describes project and existing site conditions and how each of the 13 required elements of a SWPPP are addressed.

13 Required Elements of a SWPPP

- Mark clearing limits
- Establish construction access
- Control flow rates
- Establish sediment controls
- Stabilize soils
- Protect slopes
- Protect drain inlets
- Stabilize channels and outlets
- Control pollutants
- Control dewatering
- Maintain BMP's
- Manage the project
- Protect Low Impact Development

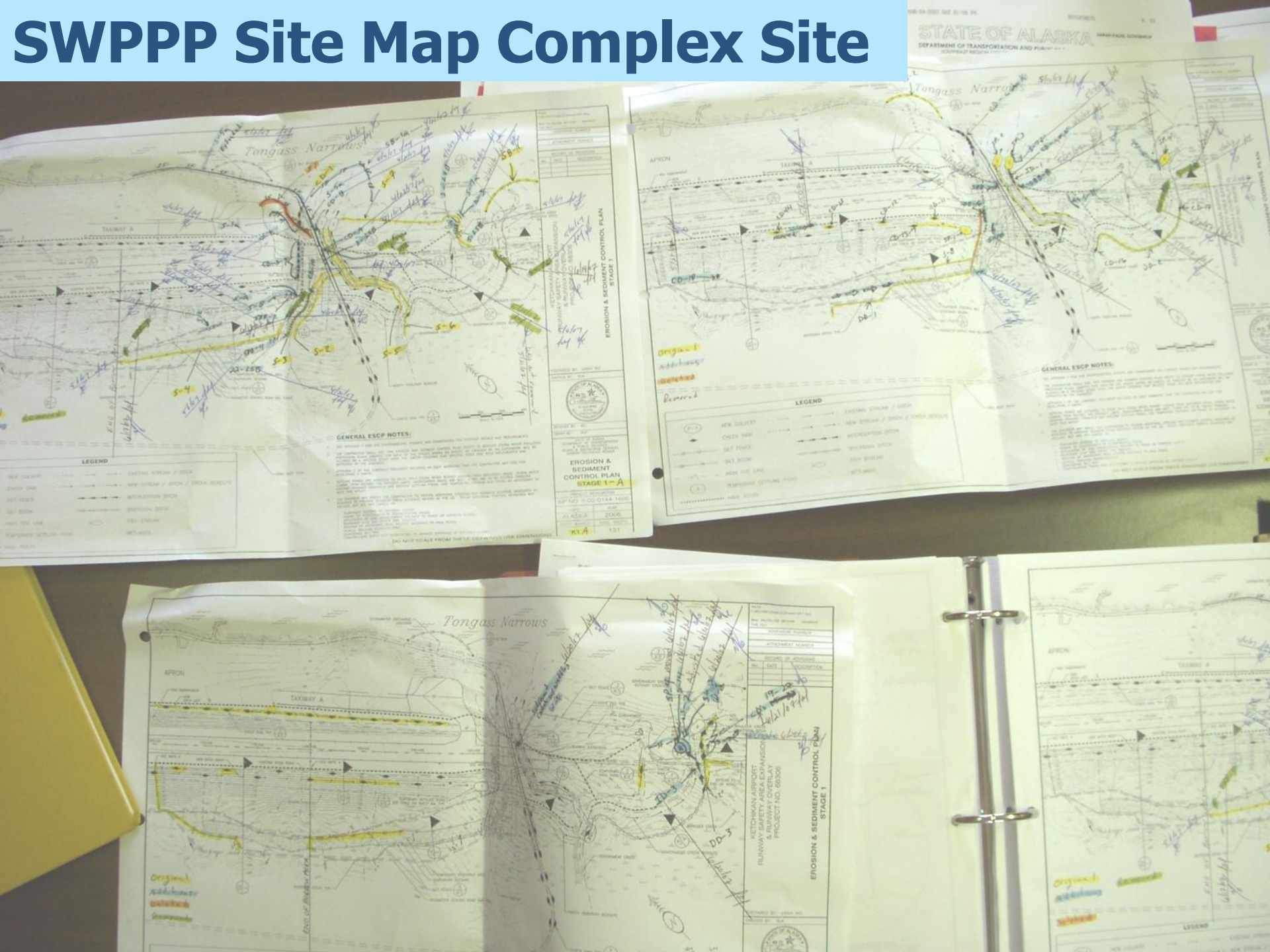
Drawings

- Vicinity map
- Site map
- Conveyance systems
- Location of detention BMPs
- Erosion and sediment control (ESC) BMPs
- Detailed drawings of structural practices not referenced in Ecology SWM Manual
- Other pollutant BMPs
- Monitoring locations
- Standard notes



SWPPP Site Map
Simple Site

SWPPP Site Map Complex Site



Narrative

- Project description
- Existing site conditions
- Adjacent areas
- Critical Areas
- Soil on site
- Describe how each of the 13 Elements will be addressed – include type of BMP(s)
- Construction schedule and phasing
- Financial/ownership responsibilities
- Engineering calculations
- CESCL contact info and expiration of certification

What is a BMP?

- Best Management Practice: agreed upon means of reducing or preventing pollution. Can be:
- Prohibitions of practices
  - "don't top off"
- Physical structures
  - silt fence
- Construction procedures or timing
  - track walking
  - no "wet season" work

Two Categories of BMPs in Ecology Stormwater Management Manual:

- Source Control BMPs:
  - Prevent or minimize pollutant generation.
- Runoff Conveyance & Treatment BMPs:
  - Control water to prevent erosion
  - Treat water to reduce pollutant levels

Source Control BMPs

Prevent or minimize generation of pollutants:

- Sediment: reduce or stop erosion of soil
- pH: control and contain sources of high pH
- Chemicals: contain and cleanup


Protect soil from erosion in traffic areas: rocked construction areas


Protect soil from erosion:
hydroseeding & trackwalking


Control sources of high pH:
Concrete truck washout area

Control sources of chemical: cover and contain and be prepared for cleanup

Runoff Conveyance and Treatment BMPs

- Reduce or stop erosion of soil while conveying water
- Treat water to settle suspended sediments prior to discharge from the site

Runoff Conveyance BMPs

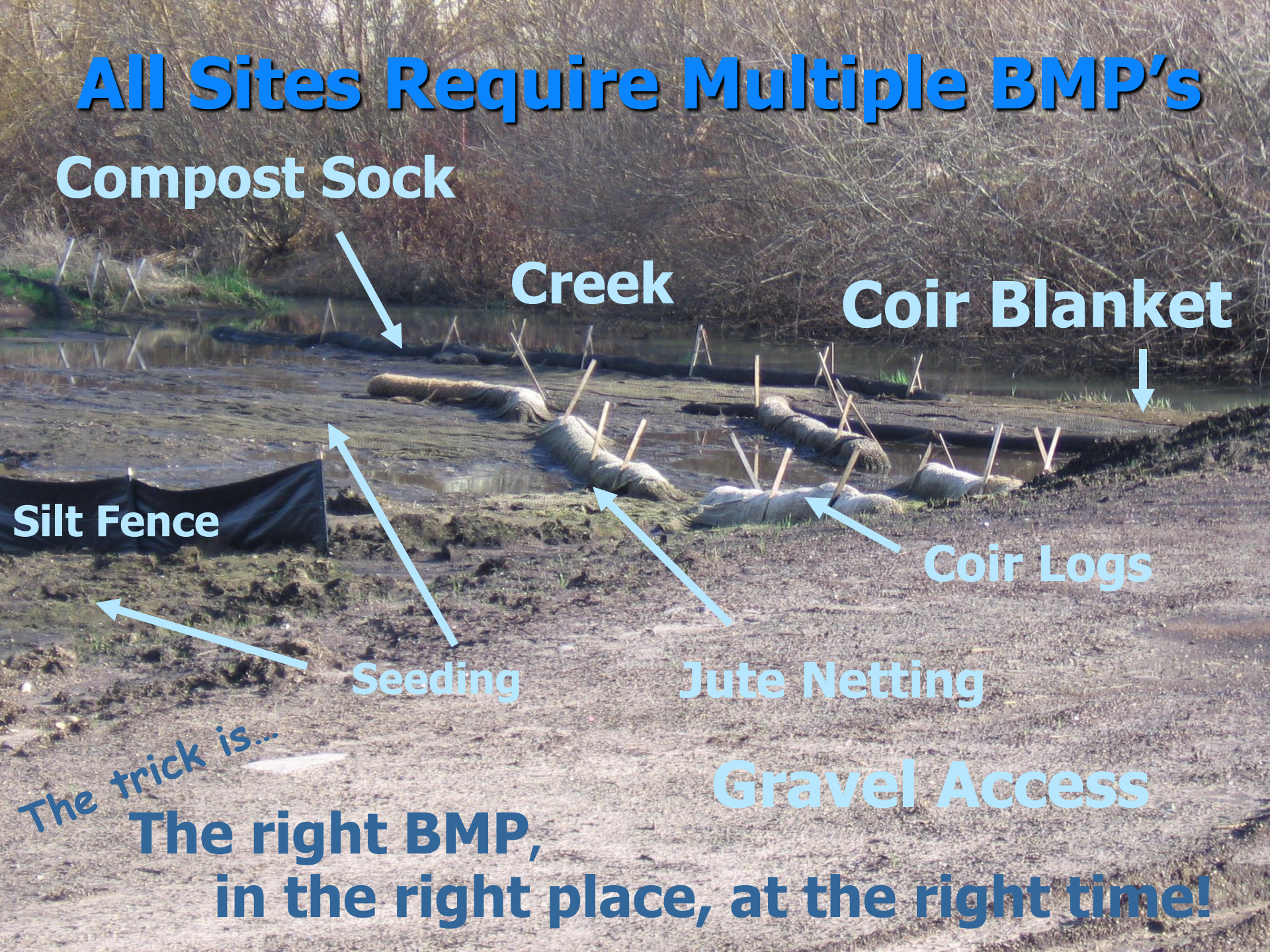
Interceptor Swale with Channel Lining and Check Dams

Pipe Slope Drain

Stormwater Treatment BMPs

Filter Fence

Sediment Pond


All Sites Require Multiple BMP's
Compost Sock
Creek
Coir Blanket
Silt Fence
Coir Logs
Seeding
Jute Netting
The trick is...
Gravel Access
The right BMP,
in the right place, at the right time!

Most Important BMP = CESCL

- Inspects site for compliance with SWPPP
- Samples stormwater discharges
- Maintains Site Log Book
- Adapts & updates SWPPP
- Ensures regulatory compliance
- On-call 24 hours a day

Ecology Stormwater Management Manual Volume II Chapter 4

- Menu of Construction Site BMPs:
  - 23 Source Control BMPs &
    Runoff Conveyance and Treatment BMPs
- This afternoon's classroom session will review these BMPs in more detail


The Key to a Successful SWPPP is…..
Site Assessment & Analysis
Proper BMP Selection
Implementation
Inspections & Documentation
Adaptive Management

Preparing a SWPPP

- **<u>Step 1: Data Collection</u>: Gather information and evaluate existing site conditions that can be used to develop the SWPPP.**

1. Topography
2. Drainage
3. Soils
4. Ground Cover
5. Critical Areas
6. Adjacent Areas
7. Existing encumbrances
8. Precipitation records

Preparing a SWPPP

- **<u>Step 2: Data Analysis</u>: Consider the data collected in Step 1 to visualize potential problems and limitations of the site. Determine those areas that have critical erosion hazards.**

1. Topography
2. Drainage
3. Soils
4. Ground Cover
5. Critical Areas
6. Adjacent Areas
7. Precipitation records
8. Timing of the project

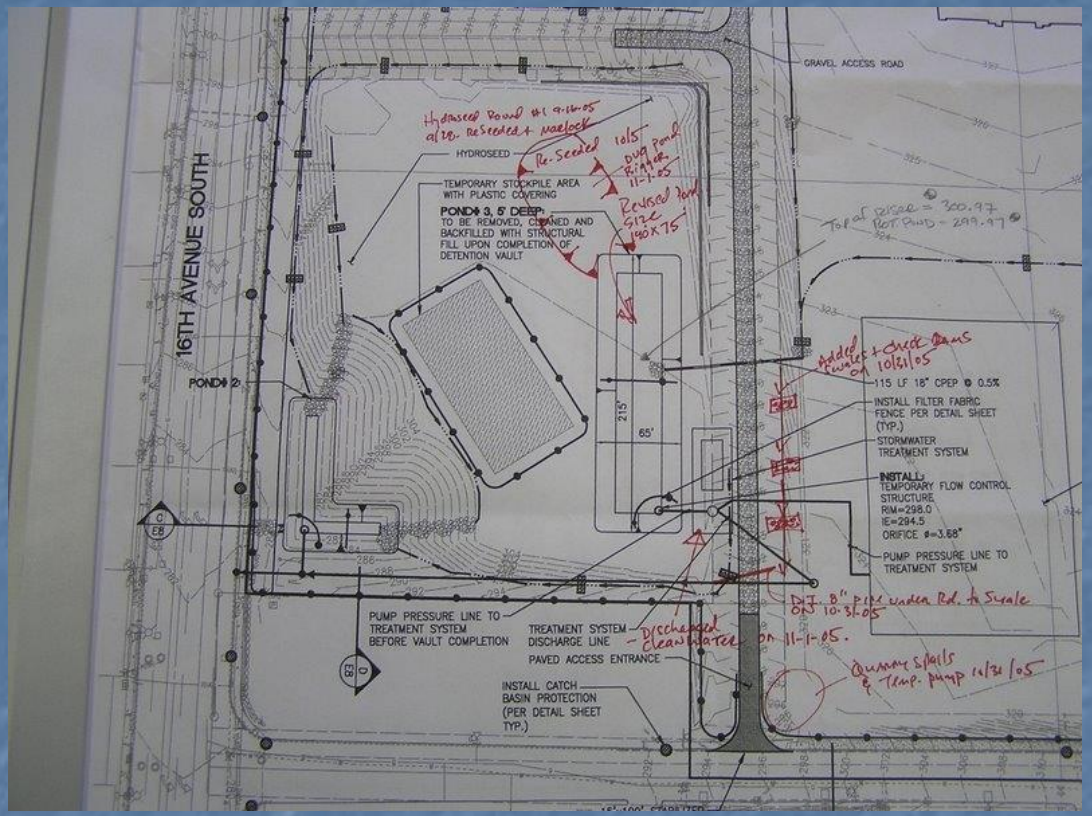
Preparing a SWPPP

- **<u>Step 3: SWPPP Development and Implementation</u>: After collecting and analyzing the data, develop the SWPPP by addressing the 13 required elements.**

1. Mark Clearing Limits
2. Establish Construction Access
3. Control Flow Rates
4. Install Sediment Controls
5. Stabilize Soils
6. Protect Slopes
7. Protect Drain Inlets
8. Stabilize Channels and Outlets
9. Control Pollutants
10. Control Dewatering
11. Maintain BMPs
12. Manage the Project
13. Protect Low Impact Development

Implementing a SWPPP

The SWPPP is a "living document" to be reviewed and updated as changed circumstances occur and the need arises to address unplanned for pollution control.



Maintaining an Updated SWPPP

The SWPPP shall be modified whenever there is a change in the design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants to waters of the state.

Maintaining an Updated SWPPP

The SWPPP shall be modified, if during inspections or investigations conducted by the owner/operator or the applicable local or state regulatory agency, it is determined that the SWPPP is ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site.